

APPLICANTS: NUNES RAMOS DE CARVALHO, Bruno Manuel et al.  
SERIAL NO.: 10/576,198  
FILED: February 16, 2007  
Page 2

### AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1. **(Currently Amended)** An autonomous garment with active thermal control and powered by solar cells, comprising:
  - a plurality of solar cells;
  - a plurality of batteries;
  - a plurality of resistors;
  - a refrigeration unit embedded in the garment to produce a refrigeration cycle;
  - a plurality of Peltier cells configured to produce or remove heat in the same cell by changing the direction of current in the cell;
  - a microcontroller;
  - a plurality of refrigeration pipes to distribute thermal flow from the refrigeration unit across the garment, an electric bus connector, a plurality of thermal sensors, and a plurality of plugs to power devices external to the garment.
2. **(Currently Amended)** The garment of claim 1, wherein the solar cells are connected to [[an]] the electric bus connector, are on the outer shell of the garment and include optical parts, a protection layer, and filters.
3. **(Currently Amended)** The garment of claim 1, wherein the batteries are embedded in the garment[[.]] and are connected to the electric bus connector.
4. **(Currently Amended)** The garment of claim 1, wherein the set-of resistors are embedded in the garment, [[and]] are connected to the electric bus connector, and are distributed in the garment for delivery of heat.
5. **(Currently Amended)** The garment of claim 1, wherein the Peltier cells are embedded in the garment, [[and]] are connected to the electric bus connector, and are distributed in the garment to produce heat and cold.

APPLICANTS: NUNES RAMOS DE CARVALHO, Bruno Manuel et al.  
SERIAL NO.: 10/576,198  
FILED: February 16, 2007  
Page 3

6. **(Currently Amended)** The garment of claim 1, wherein the refrigeration ~~[[cycle]]~~ unit is connected to the electric bus connector~~[[,]]~~ and ~~includes to the refrigeration~~ pipes distributed in the garment for cooling.
7. **(Currently Amended)** The garment of claim 1, ~~comprising wherein~~ a device connected to the electric bus connector is ~~[[and]]~~ selected from the group consisting of: thermal sensors, luminous and sonorous signaling appliances, positioning systems, and one or more of the plurality of power plugs.
8. **(Currently Amended)** The garment of claim 1, ~~comprising a~~ wherein the microcontroller is connected to the resistors, the Peliter cells, the batteries, the solar cells, and the refrigeration ~~[[cycle]]~~ unit via the electric bus connector, for the active thermal control of the garment.
9. **(Currently Amended)** The garment of claim 1, wherein the microcontroller includes means to display data and software to control ~~[[the]]~~ thermal parameters.
10. **(Currently Amended)** The garment ~~according to~~ of claim 1, wherein the solar cells are adapted to convert radiation from fire to electric power.
11. **(Cancelled)**
12. **(Currently Amended)** The ~~system~~ garment of claim 2, wherein the filters have a geometry optimized for the solar spectrum.